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Industrialized Housing and Buildings

Technical Bulletin

IHB TB 12-01 – Duct Testing in Residential Occupancies

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Code: 2009 International Energy Conservation Code (IECC)

Referenced Sections: 403.2.2 Sealing (Mandatory)

The 2009 Energy Conservation Code becomes effective for the Texas Industrialized Housing and Buildings program on July 1, 2012. There are a number of changes in the 2009 code that will affect construction practices in the residential modular industry.

This bulletin will address one of the changes - duct tightness testing in section 403.2.2 of the IECC and applies to all industrialized housing and to industrialized buildings that are classified as Group R-2, R-3, or R-4 occupancies.

Testing of ducts is now required to verify that the ducts are sealed as required by the code. The code gives an option of a post-construction test or a rough-in test.

Post-Construction Test: This test is performed after all construction is complete. Leakage to the outdoors shall be less than or equal to 8 cfm per 100 ft² of conditioned floor area or a total leakage less than or equal to 12 cfm per 100 ft² of conditioned floor space when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the entire system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.

The post-construction test would always happen at the installation site.

Rough-In Test: This test is performed after all duct connections have been made. There are 2 options for this test.

- Total leakage shall be less than or equal to 6 cfm per 100 ft² of conditioned floor area when tested at a pressure differential of 0.1 inches w.g. (25 Pa) across the roughed-in system, including the manufacturer's air handler enclosure. All register boots shall be taped or otherwise sealed during the test.
- If the air handler is not installed at the time of the test, total leakage shall be less than or equal to 4 cfm per 100 ft² of conditioned floor area.

In most cases, the rough-in test would also happen at the installation site. The only exception might be if there were no duct connections between modular sections required to be completed at the installation site.

Although in most cases the duct testing will need to be completed at the installation site, it is strongly recommended that manufacturers of residential modules consider testing that portion of the ducts constructed in the plant to ensure that their portion of the work was completed as required by code.

NOTE: Duct tightness testing is not required if the air handler and all ducts are located within the conditioned space.